

## BIBLIOGRAPHICAL NOTICES.

*Economic Ornithology.*

1. *Food Habits of the Grosbeaks.* U.S. Department of Agriculture, Bull. 32. Washington Government Printing Office. 1908.
2. *Birds that eat Scale-Insects.* Reprint from Yearbook of Department of Agriculture. 1906.

IN the matter of economic ornithology we in England are disgracefully behind the times; the Board of Agriculture seemingly prefers to leave this matter to private enterprise, or to deal with the matter in such a perfunctory manner as to be positively ridiculous, making us the laughing-stock of the nations.

On the Continent and in the United States things are different. In the United States, indeed, for many years past, the study of birds in their relation to man has been vigorously prosecuted, and splendid results have rewarded this zeal.

The two pamphlets now before us are most admirable examples of their kind, and should be carefully studied by all who are interested in this matter.

The first on our list is by Mr. W. L. McAtee, an Assistant of the Biological Survey, and it is a model of what such work should be.

The Author surveys the food eaten by five species of grosbeaks, representing the genera *Cardinalis*, *Pyrrhuloxia*, *Zamelodia*, and *Guiraca*, and giving for each species a most exhaustive account of the animal and vegetable constituents of the food, supplemented by illustrations of all the more important plants and insects and excellent figures of the birds themselves.

It would be impossible in the space of a short review to give an adequate account of the Author's conclusions, but suffice it to say that he has shown beyond cavil that these birds, which have been condemned now by the farmer and now by the fruit-grower—some species showing at certain times of the year a fondness for fruit and some for grain,—are, on the whole, unquestionably extremely valuable birds, devouring immense quantities of the seeds of certain noxious weeds. The five species studied consume nine times more weed-seed than grain and fruit, and nineteen times more injurious than useful insects.

In his second paper on 'Birds that eat Scale-Insects' the Author first outlines the appalling damage done by these insects to orchards, and then goes on to give a brief outline of the various species of birds which prey more or less on these pests. No less than fifty-seven species of birds have been found to eat scale-insects, and nearly all are, as might be supposed, arboreal species. What proportion these insects form of the total quantity of food eaten is a matter which is yet under investigation, but it would seem that some species eat large quantities thereof.